

FIG. 1
(PRIOR ART)

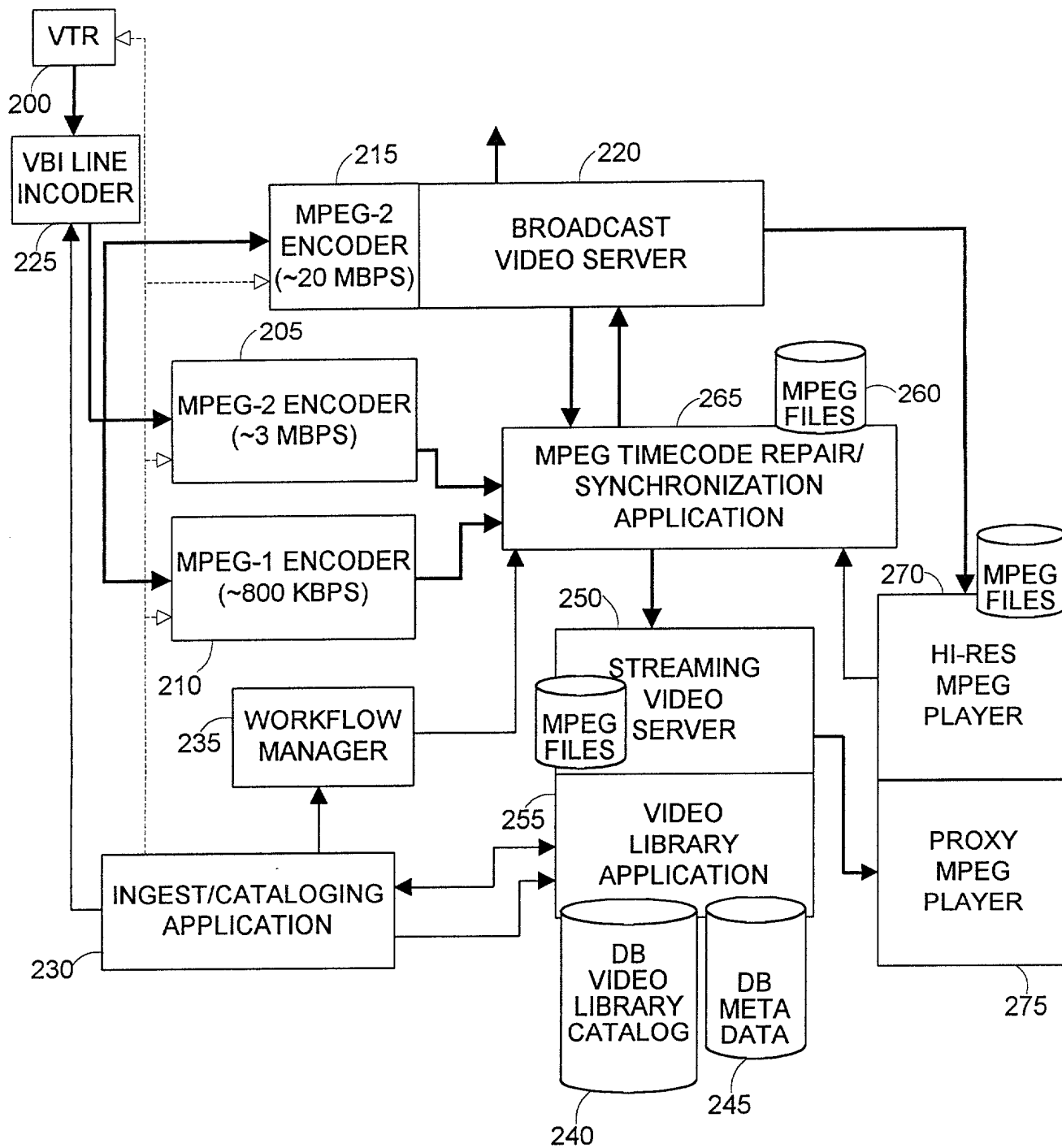
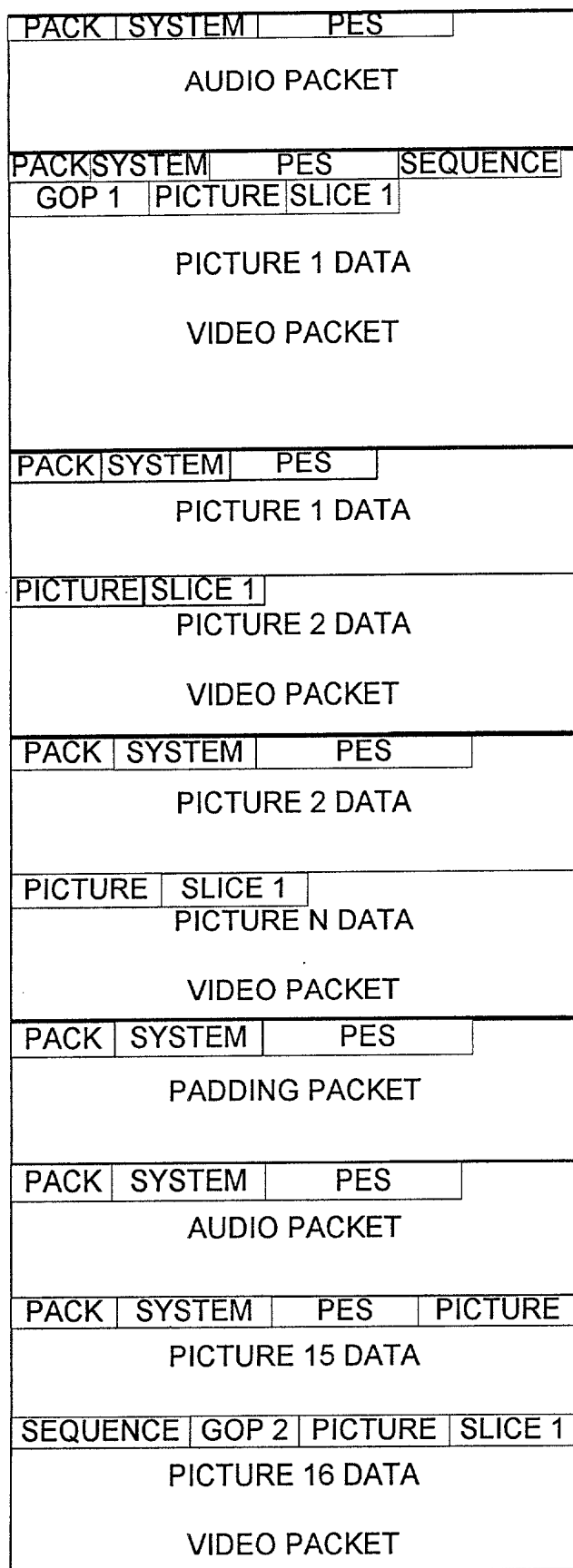
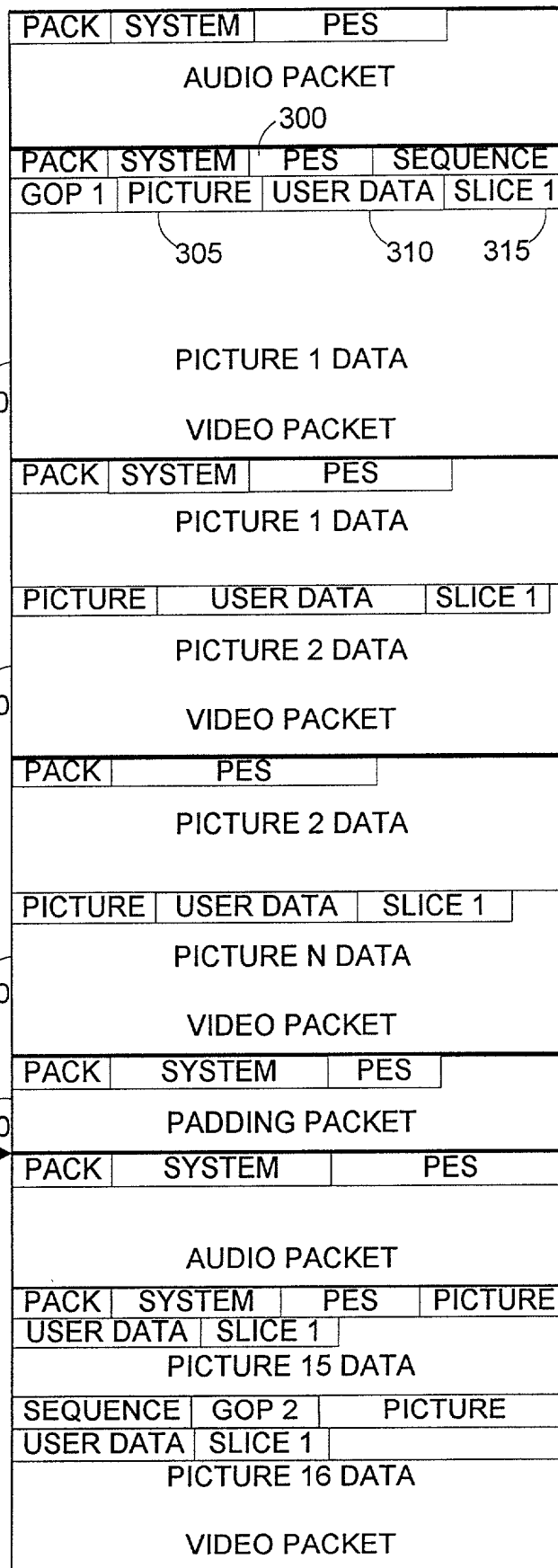


FIG. 2



ORIGINAL MPEG FILE



PROCESSED MPEG FILE

FIG. 3

TIMECODE PACKET

		OFFSET	FORMAT	VALUE
400	USER DATA START CODE (4 BYTES)	0	0000 0000	0X00
		1	0000 0000	0X00
		2	0000 0001	0X01
		3	1011 0010	0XB2
404	SIGNATURE (2 BYTES)	4	1010 1010	0XAA
		5	1010 1GGP	0XA8
410	RELATIVE TIMECODE (3 BYTES)	6	BHHH HHMM	
		7	MMMM SSSS	
		8	SSXF FFFF	
414	ABSOLUTE TIMECODE (3 BYTES)	9	NHHH HHMM	
		10	MMMM SSSS	
		11	XSSF FFFF	
420	PICTURE PTS (4 BYTES)	12	PPPP PPPP	
		13	PPPP XPPP	
		14	PPPP PPPP	
		15	PPPP PPPP	
424	PICTURE TYPE/REF (1 BYTE)	16	PTTR RRRR	
430	CHECKSUM (1 BYTE)	17	CCCC CCCC	
434	OPTIONAL PADDING (2 BYTES)	18	1111 1111	
		19	1111 1111	

LEGEND

X = MARKERS
H = HOURS
M = MINUTES
S = SECONDS
F = FRAMES
G = RIGHTS FLAGS

P = PTS
T = PICTURE TYPE
R = PICTURE REFERENCE
C = CHECKSUM
B = THUMBNAIL TAKEN FLAG
N = NO MATCHING HI-RES FLAG

RIGHTS FLAGS

00 = FULL RIGHTS
01 = LIMITED RIGHTS
10 = NO RIGHTS
11 = RIGHTS EXPIRED

FIG. 4

INTRODUCTORY TIMECODE PACKET

		OFFSET	FORMAT	VALUE
500	USER DATA START CODE (4 BYTES)	0	0000 0000	0X00
		1	0000 0000	0X00
		2	0000 0001	0X01
		3	1011 0010	0XB2
505	SIGNATURE (2 BYTES)	4	1011 1011	0XBB
		5	1011 1GGP	0XB8
510	RELATIVE TIMECODE (3 BYTES)	6	BHHH HHMM	
		7	MMMM SSSS	
		8	SSXF FFFF	
515	ABSOLUTE TIMECODE (3 BYTES)	9	NHHH HHMM	
		10	MMMM SSSS	
		11	XSSF FFFF	
520	PICTURE PTS (4 BYTES)	12	PPPP PPPP	
		13	PPPP XPPP	
		14	PPPP PPPP	
		15	PPPP PPPP	
525	PICTURE TYPE/REF (1 BYTE)	16	PTTR RRRR	
530	CHECKSUM (1 BYTE)	17	CCCC CCCC	
535	OPTIONAL PADDING (2 BYTES)	18	UVYY XXZZ	
		19	ZZZZ ZZZZ	

LEGEND

X = MARKERS	P = PTS
H = HOURS	T = PICTURE TYPE
M = MINUTES	R = PICTURE REFERENCE
S = SECONDS	C = CHECKSUM
F = FRAMES	B = THUMBNAIL TAKEN FLAG
G = RIGHTS FLAGS	N = NO MATCHING HI-RES FLAG
Y = TIMECODE FLAGS	U = TRUNCATED PROXY START FLAG
Z = PROXY OFFSET	V = TRUNCATED PROXY END FLAG

RIGHTS FLAGS

00 = FULL RIGHTS
01 = LIMITED RIGHTS
10 = NO RIGHTS
11 = RIGHTS EXPIRED

TIMECODE TYPE

00 = ORIGINAL SOURCE TC
01 = REPAIRED TC
10 = HOUSE TC
11 = ELAPSED TC

FIG. 5

		HIGH-RES RELATIVE TC		ABSOLUTE TC	PROXY RELATIVE TC (AFTER REPAIR)	PROXY RELATIVE TC (BEFORE REPAIR)
600	FRAME 1	00:00:00:00	09:15:10:06	*	FRAME 1	00:00:00:00
	FRAME 2	00:00:00:01	09:15:10:07	*	FRAME 2	00:00:00:01
	FRAME 3	00:00:00:02	09:15:10:08	*	FRAME 3	00:00:00:02
	FRAME 4	00:00:00:03	09:15:10:09	*	FRAME 4	00:00:00:03
					FRAME 5	00:00:00:04
					FRAME 6	00:00:00:05
					FRAME 7	00:00:00:06
					FRAME 8	00:00:00:07
600	FRAME N-4	00:15:35:18	09:30:45:27	00:15:35:18	FRAME N-6	00:15:35:22
	FRAME N-3	00:15:35:19	09:30:45:27	00:15:35:19	FRAME N-5	00:15:35:23
	FRAME N-2	00:15:35:20	09:30:45:28	00:15:35:20	FRAME N-4	00:15:35:24
	FRAME N-1	00:15:35:21	09:30:45:29	00:15:35:21	FRAME N-3	00:15:35:25
	FRAME N	00:15:35:22	09:30:46:00	00:15:35:22	FRAME N-2	00:15:35:26
			09:30:46:01	*	FRAME N-1	00:15:35:27
			09:30:46:02	*	FRAME N	00:15:35:28
HIGH-RES FILE					PROXY FILE	

* FRAME MARKED AS 'NO HI-RES
MATCH' IN TIMECODE PACKET
AND NEVER RENDERED BY
THE MPEG PLAYER

** PROXY TIMECODE OFFSET
= +00:00:00:04

FIG. 6

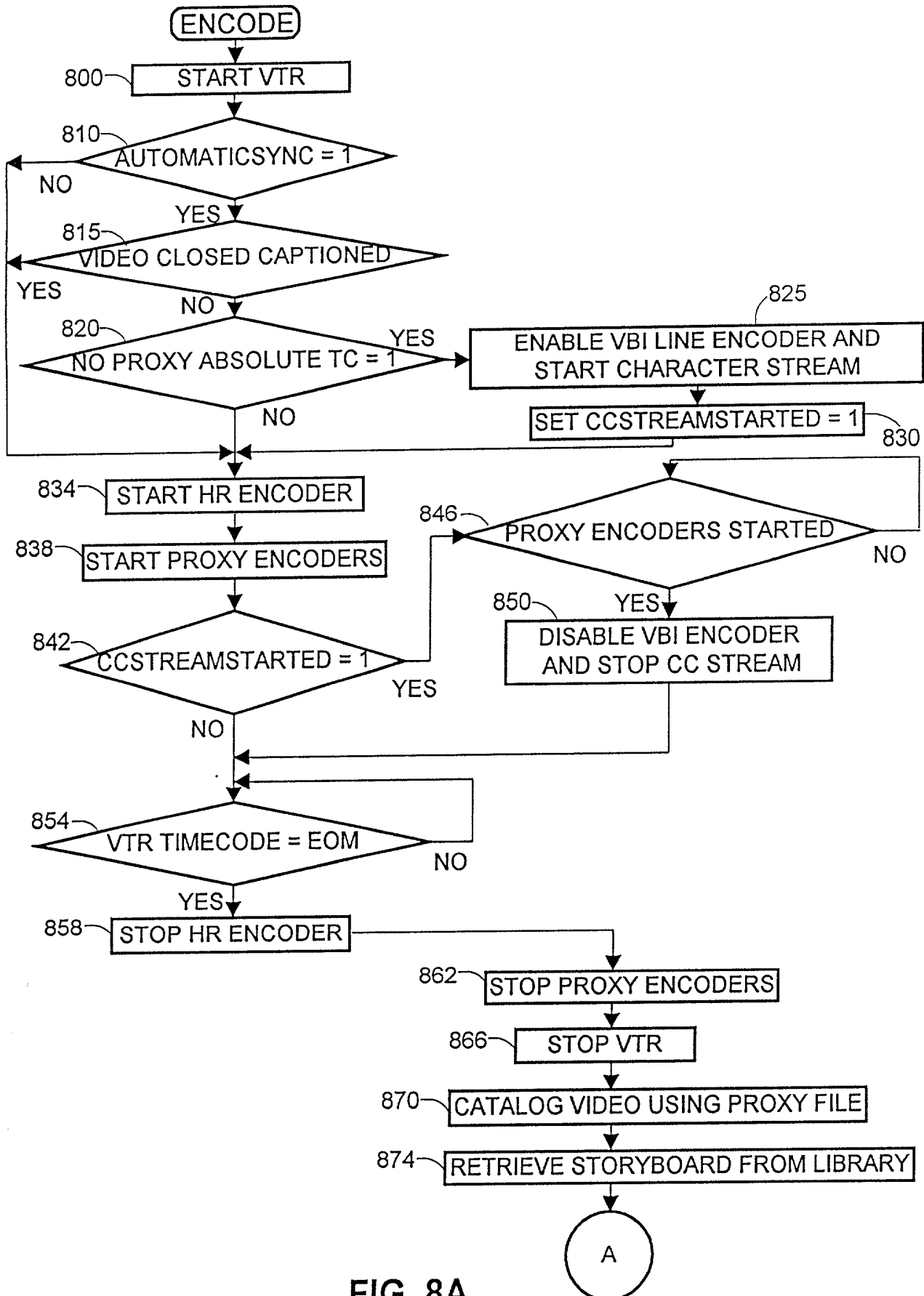
	HIGH-RES RELATIVE TC	ABSOLUTE TC	PROXY RELATIVE TC (AFTER REPAIR)	PROXY RELATIVE TC (BEFORE REPAIR)
700				
FRAME 1	00:00:00:00	09:15:10:06		
FRAME 2	00:00:00:01	09:15:10:07		
FRAME 3	00:00:00:02	09:15:10:08		
FRAME 4	00:00:00:03	09:15:10:09		
FRAME 5	00:00:00:04	09:15:10:10	715 * *** 00:00:00:04	705
FRAME 6	00:00:00:05	09:15:10:11	00:00:00:05	FRAME 1
FRAME 7	00:00:00:06	09:15:10:12	00:00:00:06	FRAME 2
FRAME 8	00:00:00:07	09:15:10:13	00:00:00:07	FRAME 3
.	.	.	.	FRAME 4
.
.
FRAME N-6	00:15:35:22	09:30:45:27	00:15:35:22	FRAME N-4
FRAME N-5	00:15:35:23	09:30:45:27	00:15:35:23	FRAME N-3
FRAME N-4	00:15:35:24	09:30:45:28	00:15:35:24	FRAME N-2
FRAME N-3	00:15:35:25	09:30:45:29	00:15:35:25	FRAME N-1
FRAME N-2	00:15:35:26	09:30:46:00	00:15:35:26	FRAME N
FRAME N-1	00:15:35:27	09:30:46:01	**	
FRAME N	00:15:35:28	09:30:46:02		
HIGH-RES FILE	725	720	PROXY FILE	710

* 'TRUNCATED PROXY START'
FLAG SET IN TIMECODE
PACKET TO ALERT USER
THAT NOT ALL FRAMES IN
THE HIGH-RESOLUTION FILE
CAN BE BROWSED

** 'TRUNCATED PROXY END'
FLAG SET IN TIMECODE
PACKET

*** PROXY TIMECODE
OFFSET = -00:00:00:04

FIG. 7



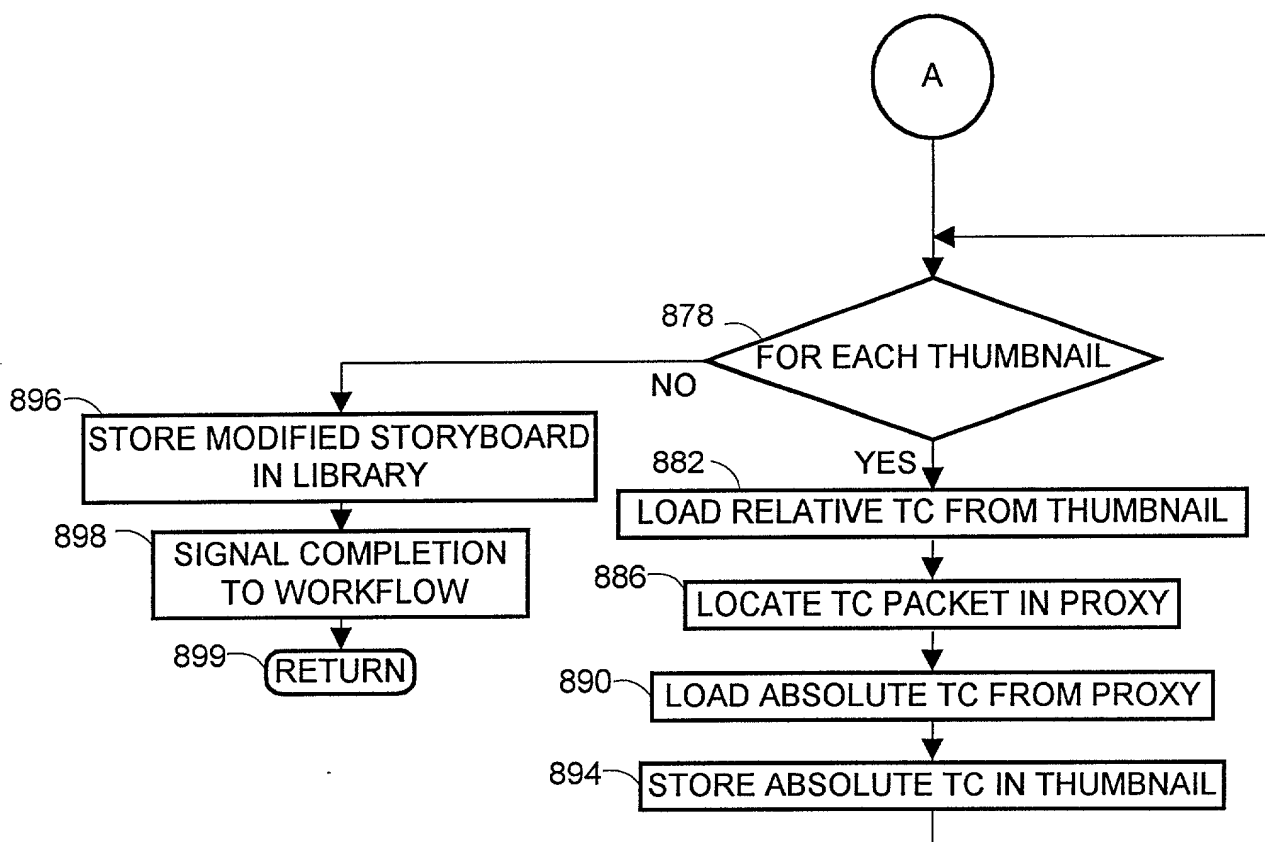


FIG. 8B

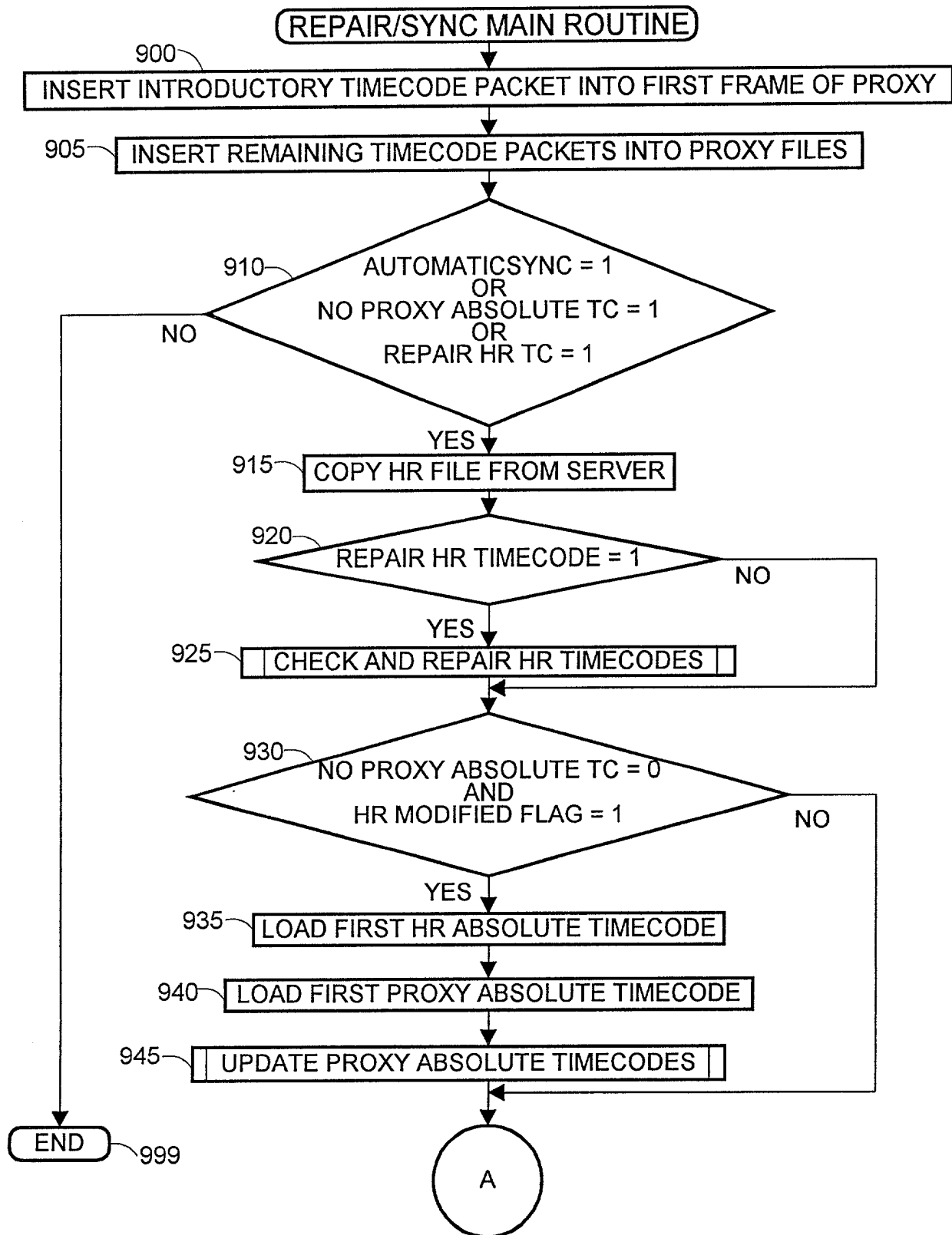


FIG. 9A

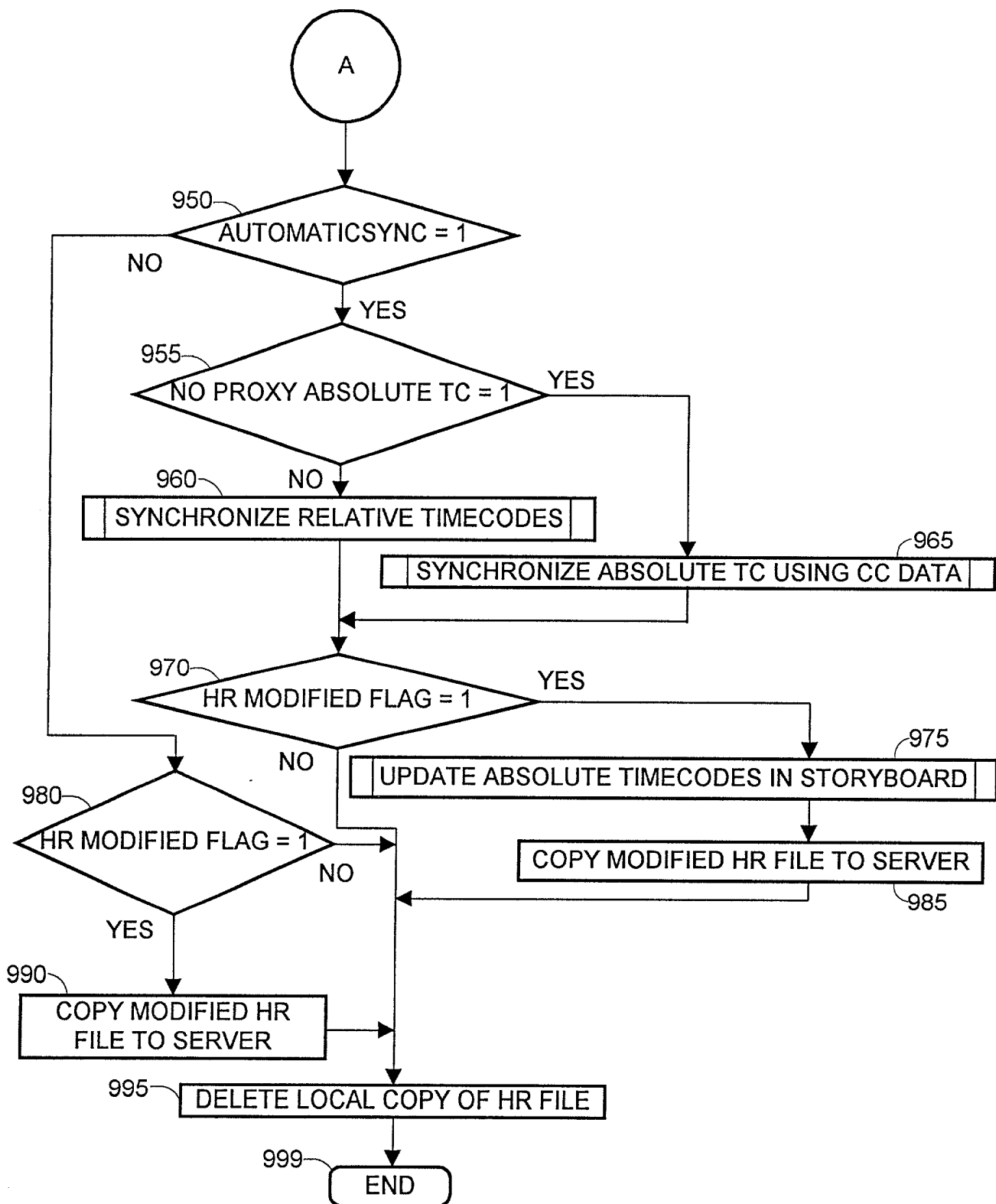


FIG. 9B

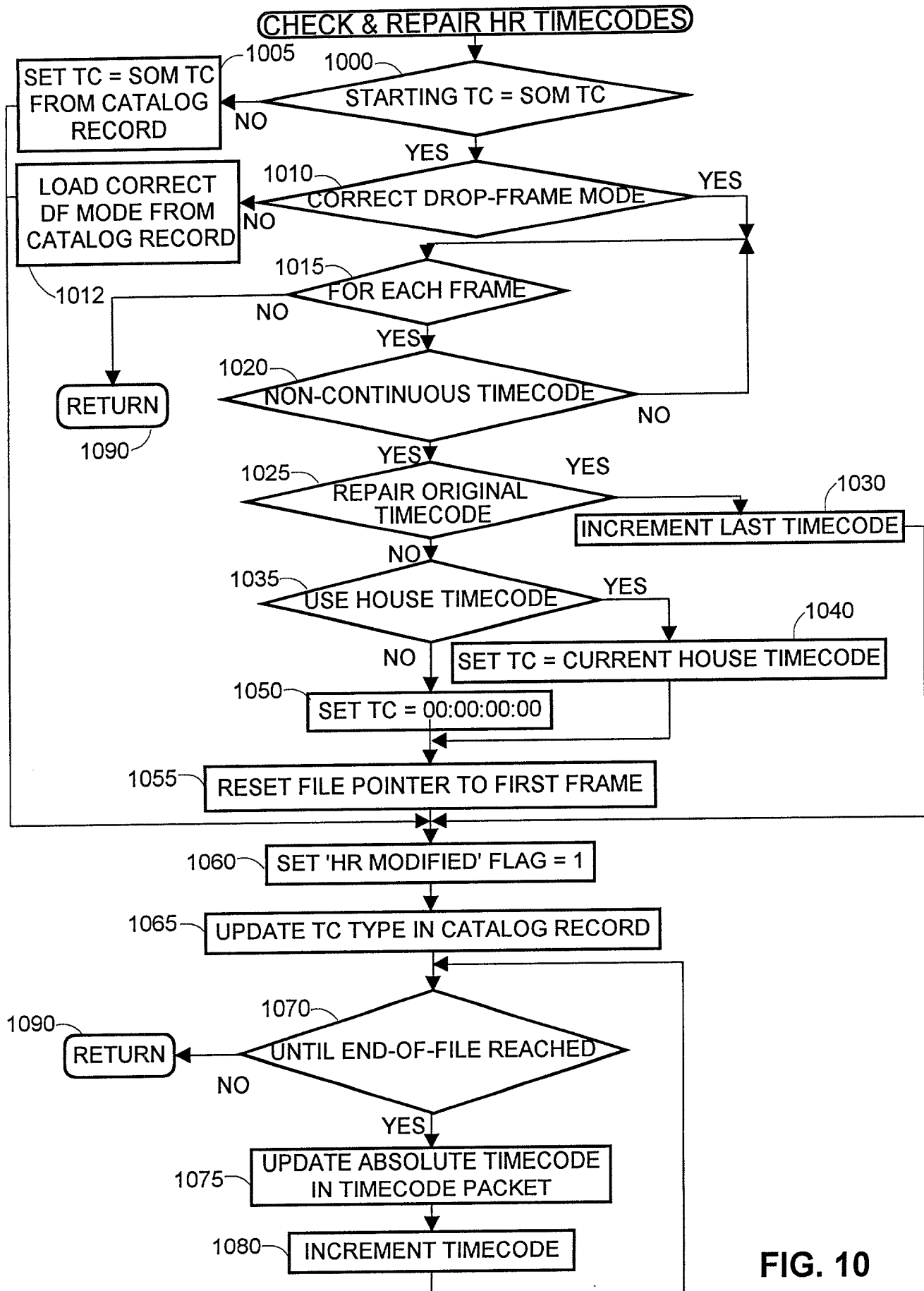


FIG. 10

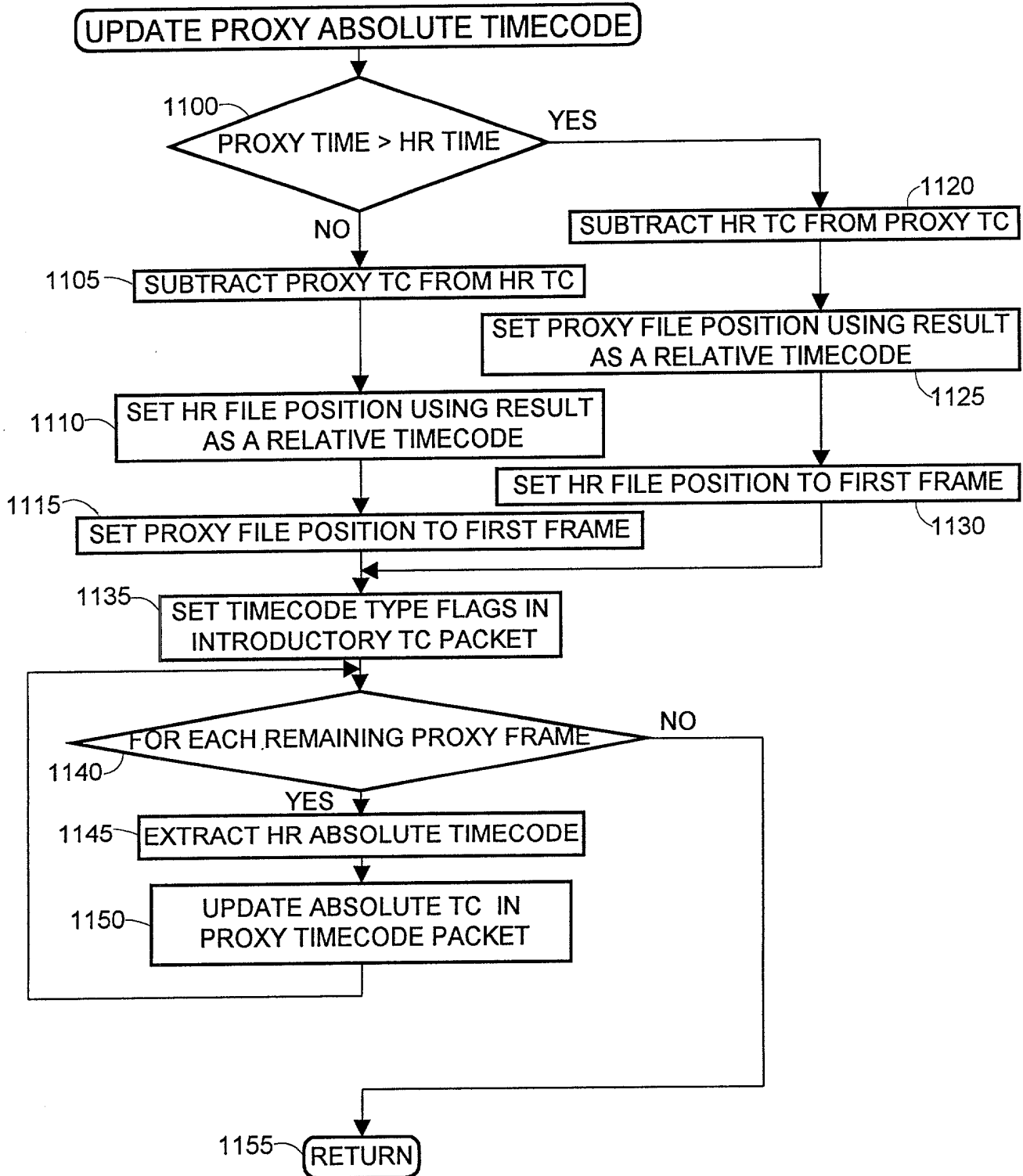


FIG. 11

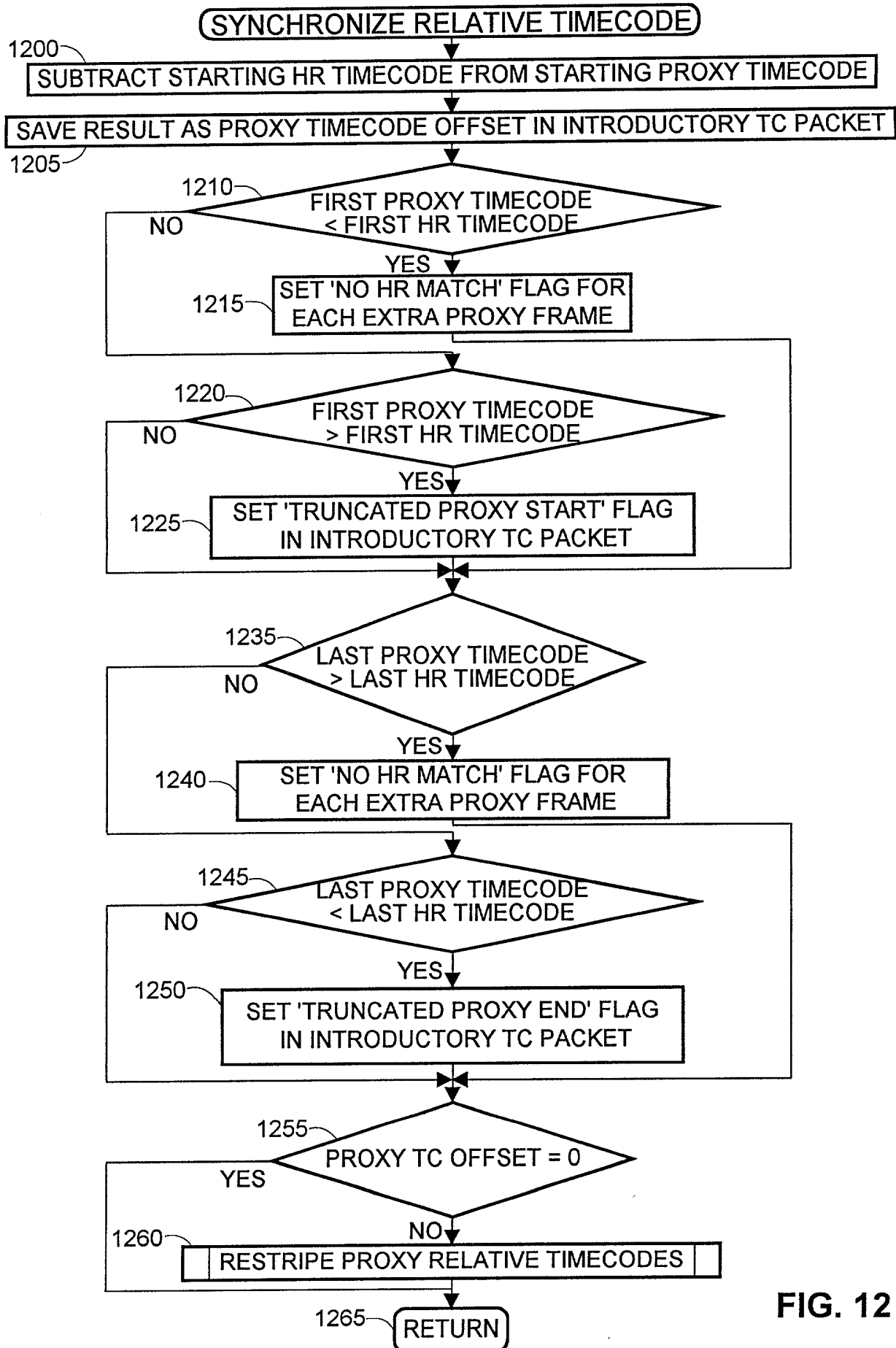


FIG. 12

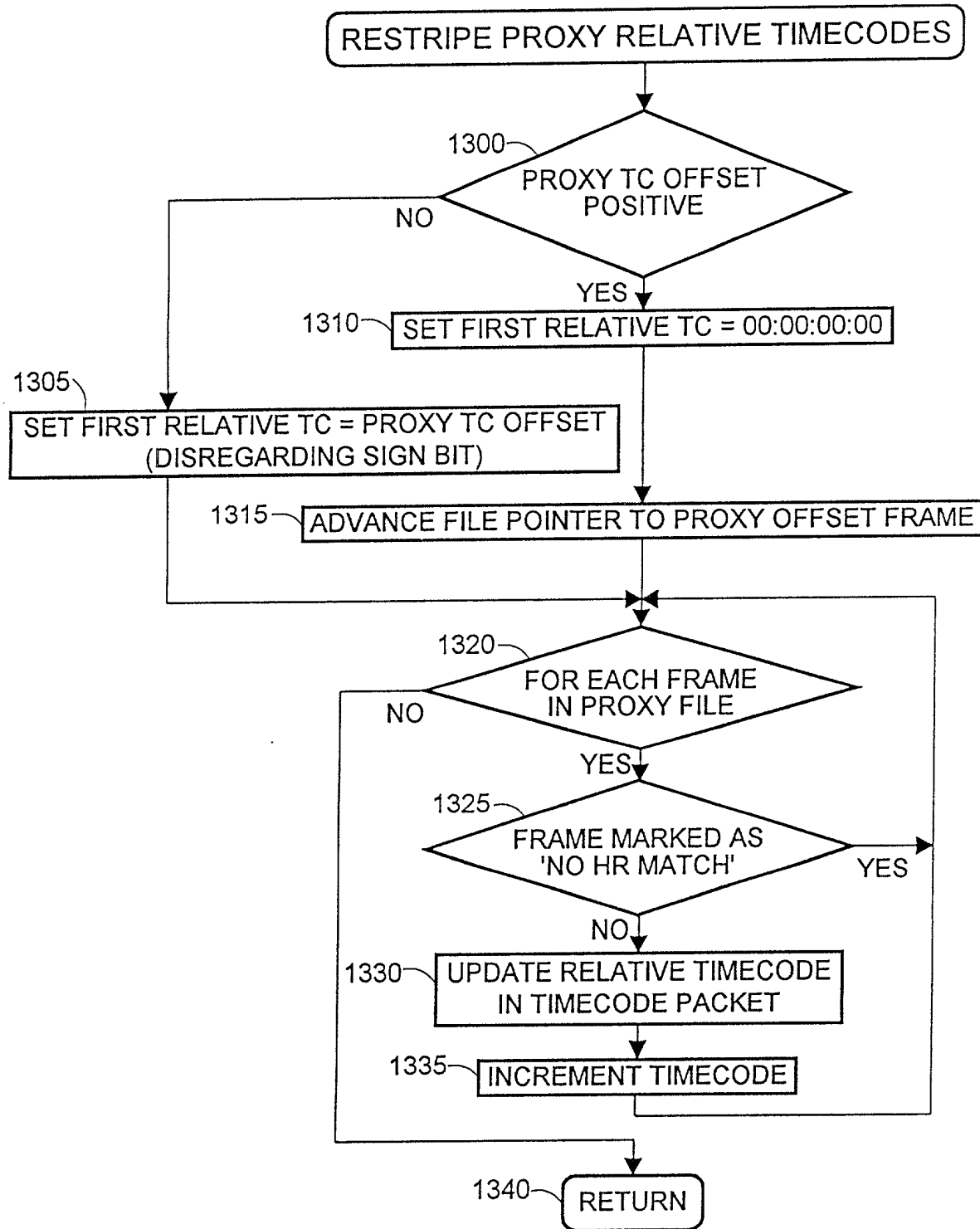


FIG. 13

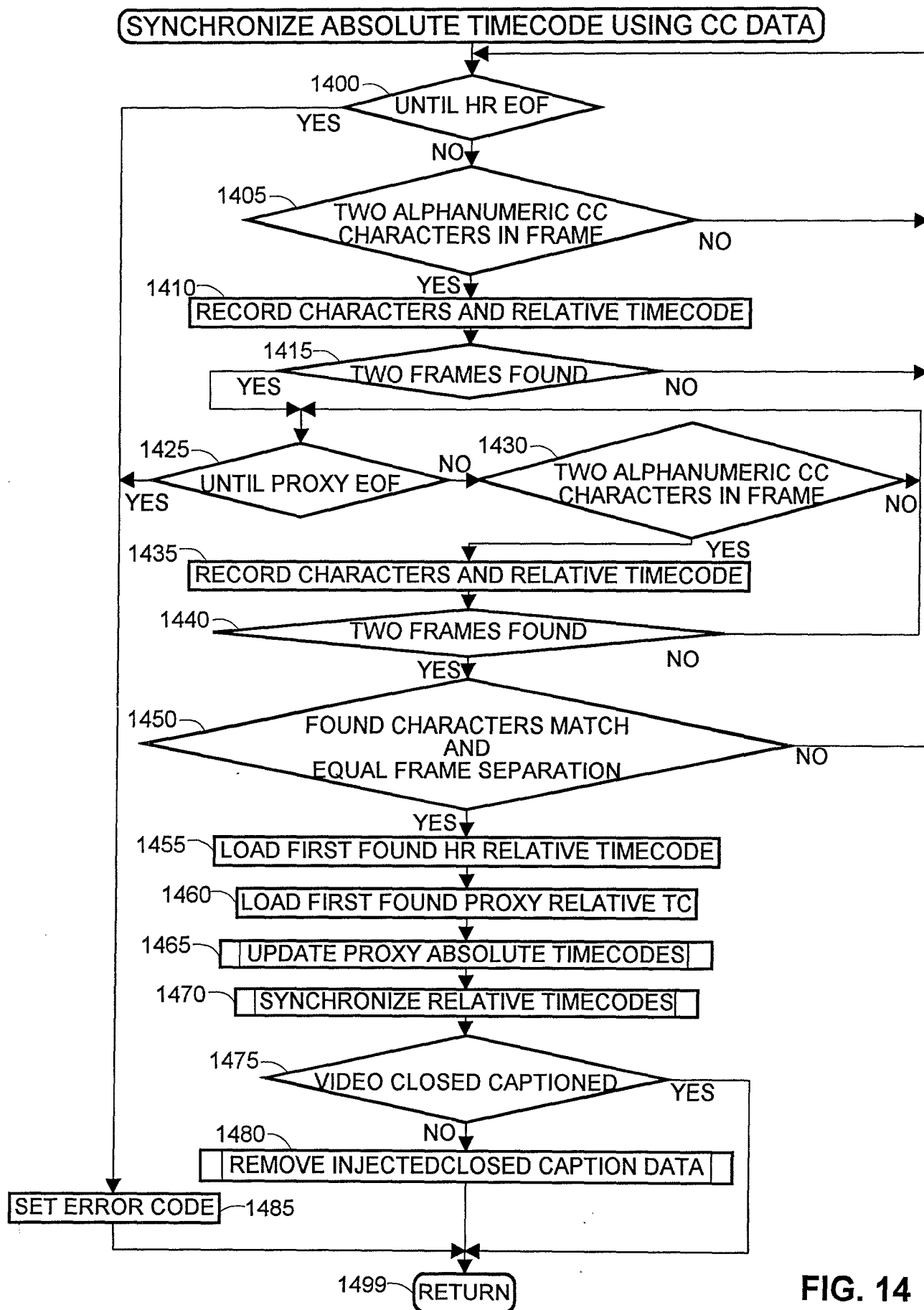


FIG. 14

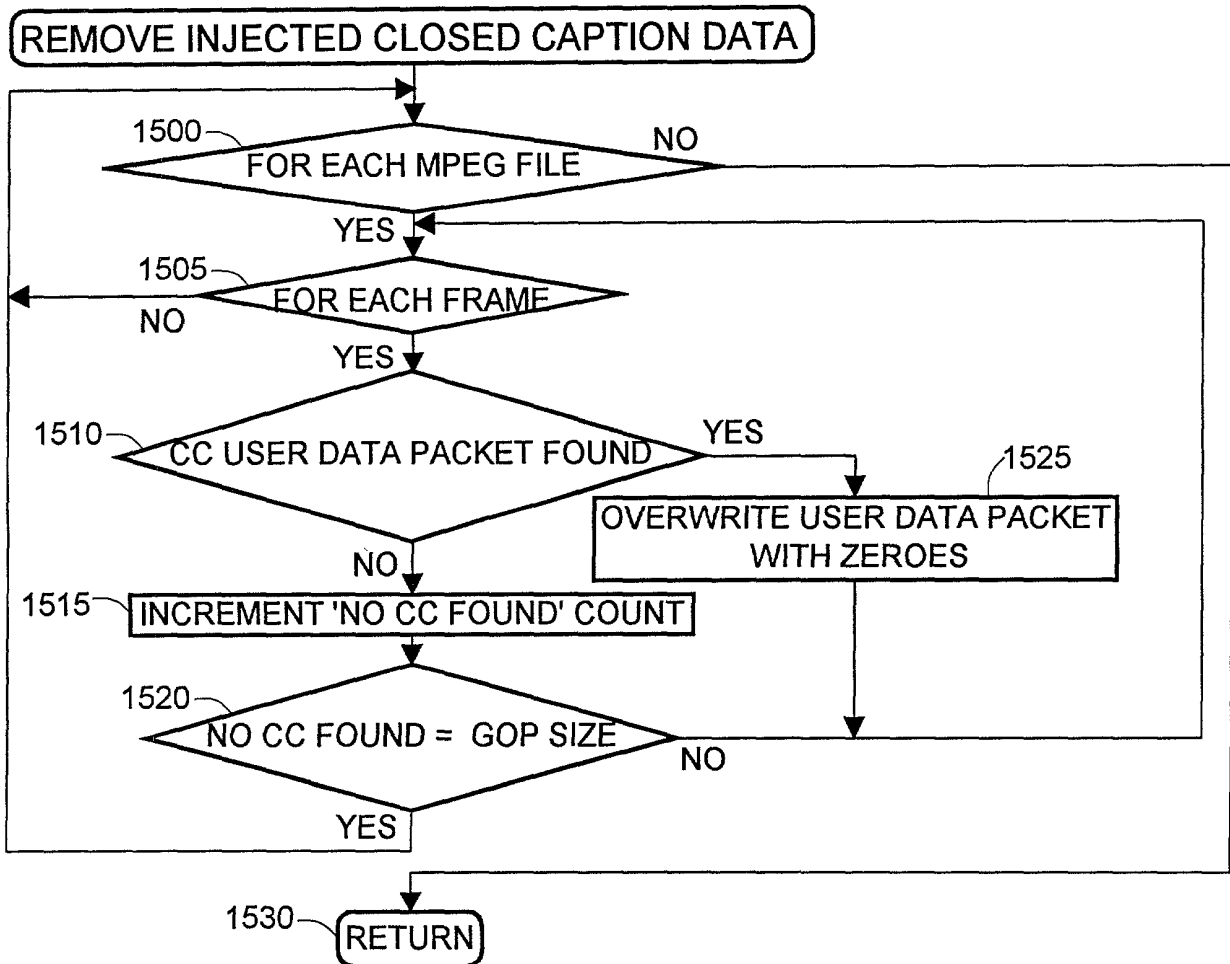


FIG. 15A

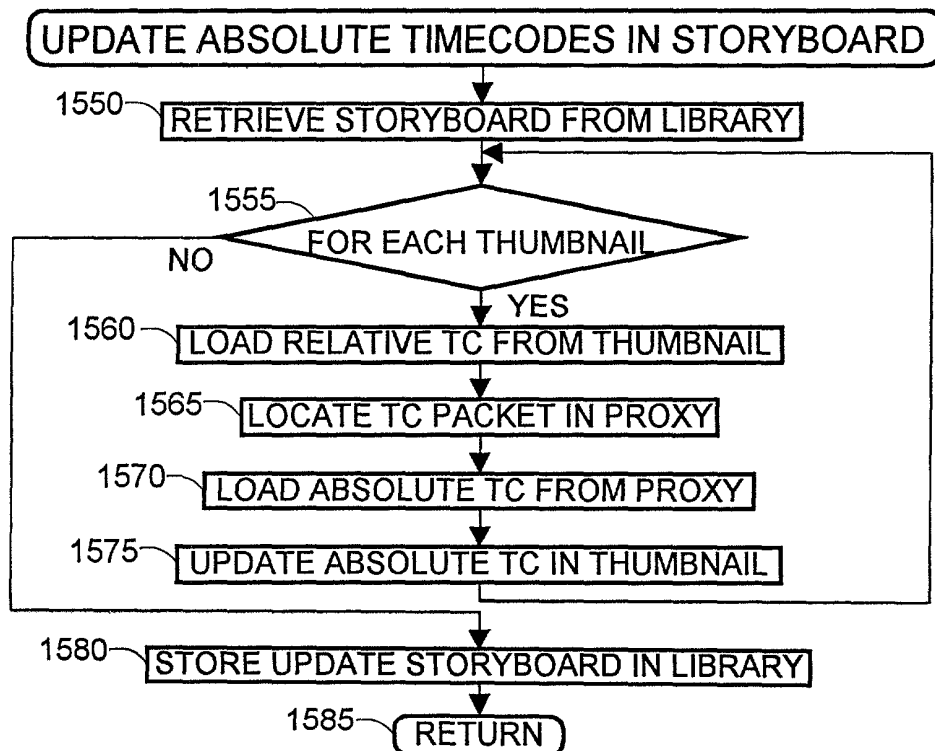


FIG. 15B

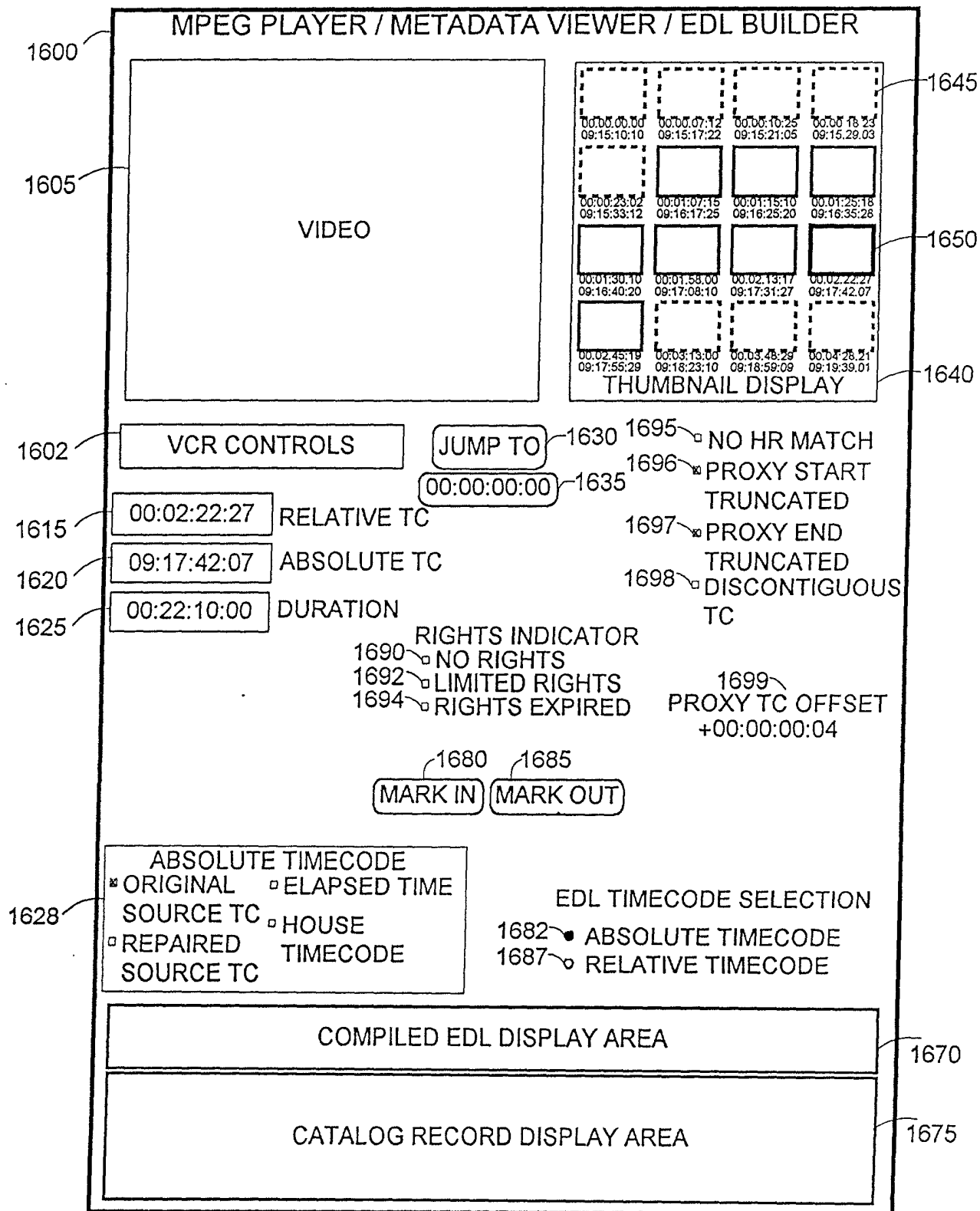


FIG. 16

